Army Recreation Machine Program (ARMP)

Internet for MWR
Presented to:

ARMY STANDING COMMITTEE (ASC) ON INFORMATION TECHNOLOGY IN SUPPORT OF MILITARY CONSTRUCTION

15 April 2008

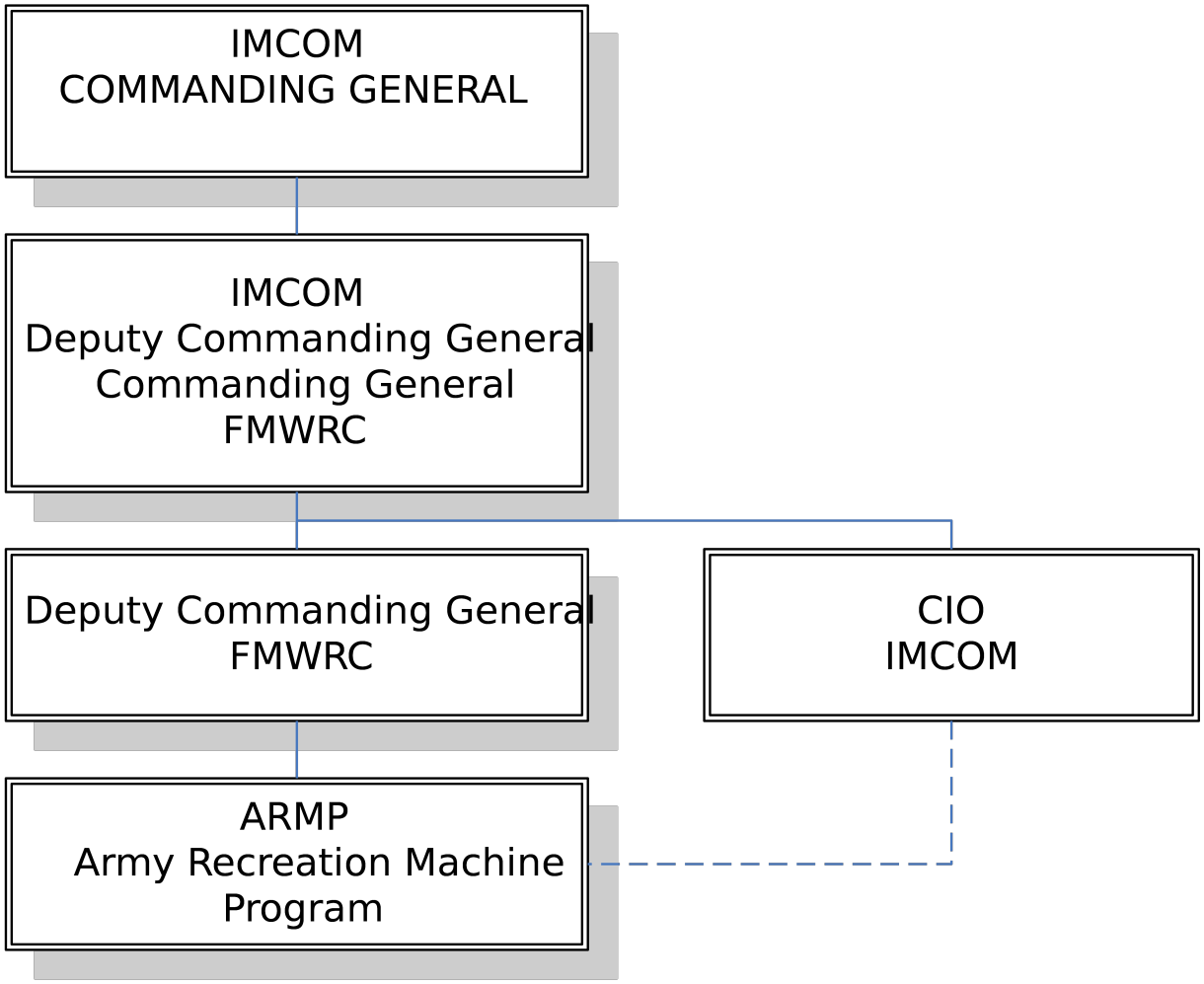
“All Paths Lead to the Soldier”

Briefing Agenda

- ARMP Overview
- WTU Mission
- WiFi Barracks Objectives
- ARMP and MWR Responsibilities
- General Technical Implementation
- Benefits to Installations
- Issues and Summary

ARMP within IMCOM

ARMP REPORTING CHAIN



The ARMP Mission

The mission of the Army Recreation Machine Program is to generate profit to fund Morale, Welfare and Recreation programs worldwide.

- Management controls to safeguard money
- Fair games
- Control expenses

Operate:

- ✓ Slot machines
- ✓ Amusement machines
- ✓ Internet services and digital technology

Soldier money funds Soldier programs!

Barracks WiFi Background

- HotSpots were the impetus
- Briefed LTG Wilson 1-Dec-2006
  - ✓"Good initiative move out"
- MWR EXCOM and BOD endorsed initiative.
- Installed WiFi into Barracks at Ft Benning as Pilot Project.
- ACSIM policy memo signed 28-Mar-2007

WTU Initiative

- **Background**
  - ✓ Walter Reed April 2007
  - ✓ Dep Secretary Defense Direction to CSA
  - ✓ Development of Army Medical Action Plan (AMAP) OPORD June 2007
    - CIO/G6 involvement in defining requirments.
  - ✓ Coordination between MEDCOM / IMCOM
  - ✓ Development of IMCOM EXORD 07-003
  - ✓ Dec 2007 FRAGO 2 Assigned ARMP as activity to coordinate specific equipment and services.
  - ✓ Suspense 31 March 2008

- **Landscape of WTU mission**
  - ✓ 32 – 40 Installations with from 4,000-12,000 WT's
  - ✓ Location of WT's on installations not stabilized
  - ✓ Each installation had separate plans and inconsistent responses
  - ✓ Not all WT units clearly established.
  - ✓ Responsibilities and requirements not clearly understood or developed across the installations.

WTU Initiative

- **Requirements**
  - ✓ Provide “recreational” environment
  - ✓ Ensure standardization
  - ✓ Complete Mission within timeframe
- **Issues**
  - ✓ Identification of appropriate personnel
  - ✓ Purchasing equipment and services using NAF/APF procedures
  - ✓ Coordination with all installations. (DOIM / MWR / Logistics / Command / WTU)
  - ✓ Determination of Mission Requirements (Bldgs, conditions, head counts, status)

WTU Initiative

- Equipment
  - ✓Laptop Computers
  - ✓32” TV/DVD Combos
  - ✓Cell Phones
- Services
  - ✓Cable TV
  - ✓Unofficial Internet Access
  - ✓Local Phone service

WTU Initiative

- 90 Days to deliver
- 36 Installations
- Over 5000 Soldiers
- Many buildings with many configurations
- Primary and Secondary delivery plans.

MWR Barracks WiFi Services.

- First Priority Barracks:
  - ✓ Training areas.
  - ✓ Occupancy of billets for 2 weeks to 6 months.
    - These work well with a pay-as-you go service.
    - Longer term commitments start to make sense economically for the customer to provision CATV or DSL.
  - ✓ Areas not currently serviced by other types of service.
    - Installing Wireless is about 10 times cheaper to install than new CATV or DSL services.
- Buildings with physical constraints.
  - ✓ Installing cable distribution plants can be disruptive.
  - ✓ Communal living arrangements may result in shared services that are difficult to monitor if people are sharing or redistributing.
- Customers need to have Laptop or PC with card.

ARMP Responsibilities

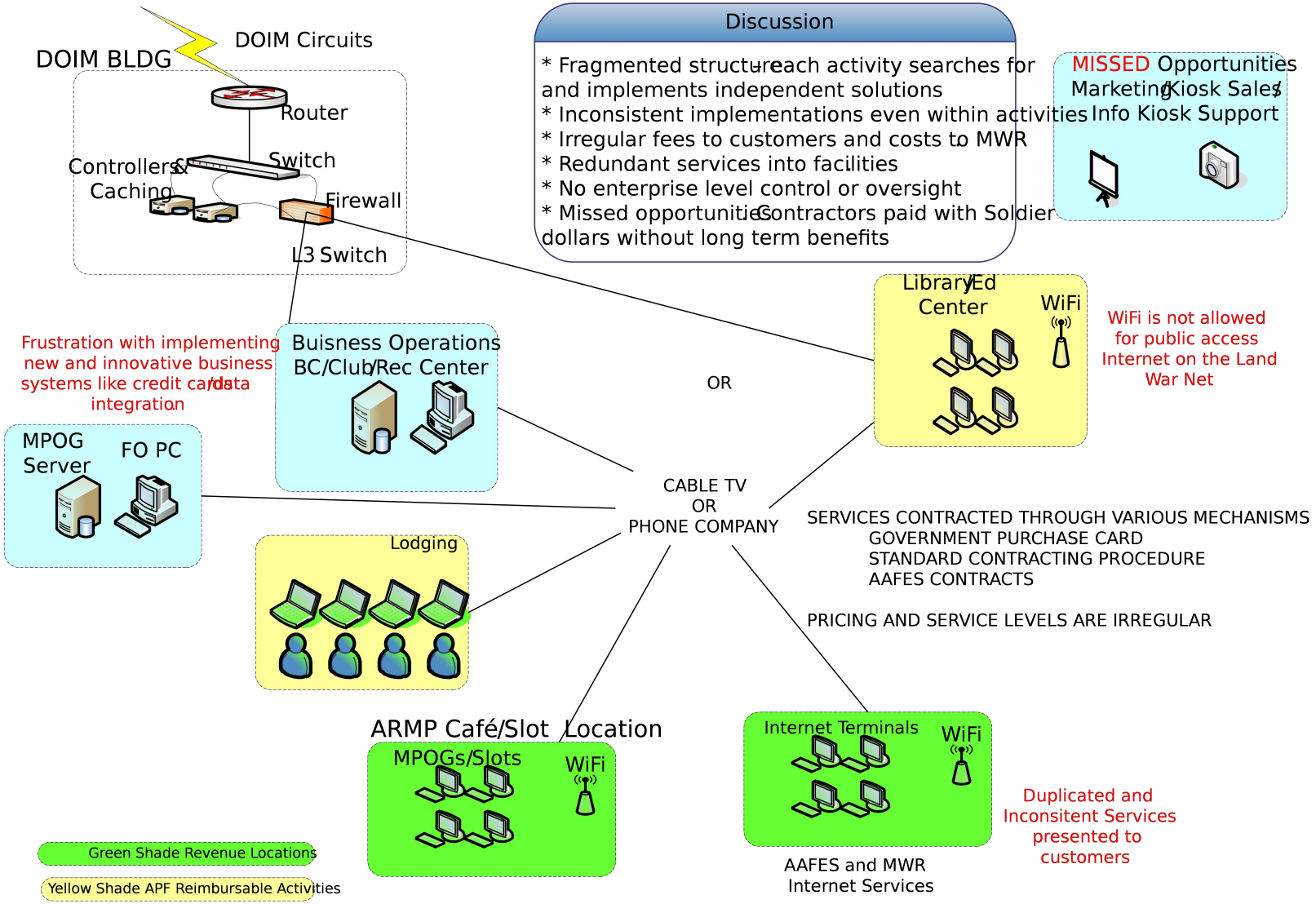
- Fund, contract and provision all circuits.
- Fund and provision termination and distribution.
- Cable and maintain infrastructure.
- Ensure compliance with national regulations.
- Ensure compliance with CIO/G6 and NETCOM directives. (ATO/SSAA/PIA/AUP)
- Ensure compliance with local DOIM and Frequency Management directives.
- Billing and customer relations management.
- Delivering funds to local MWR based on MOA. (Currently 35% of GROSS revenue.)

Local MWR and Command Responsibilities

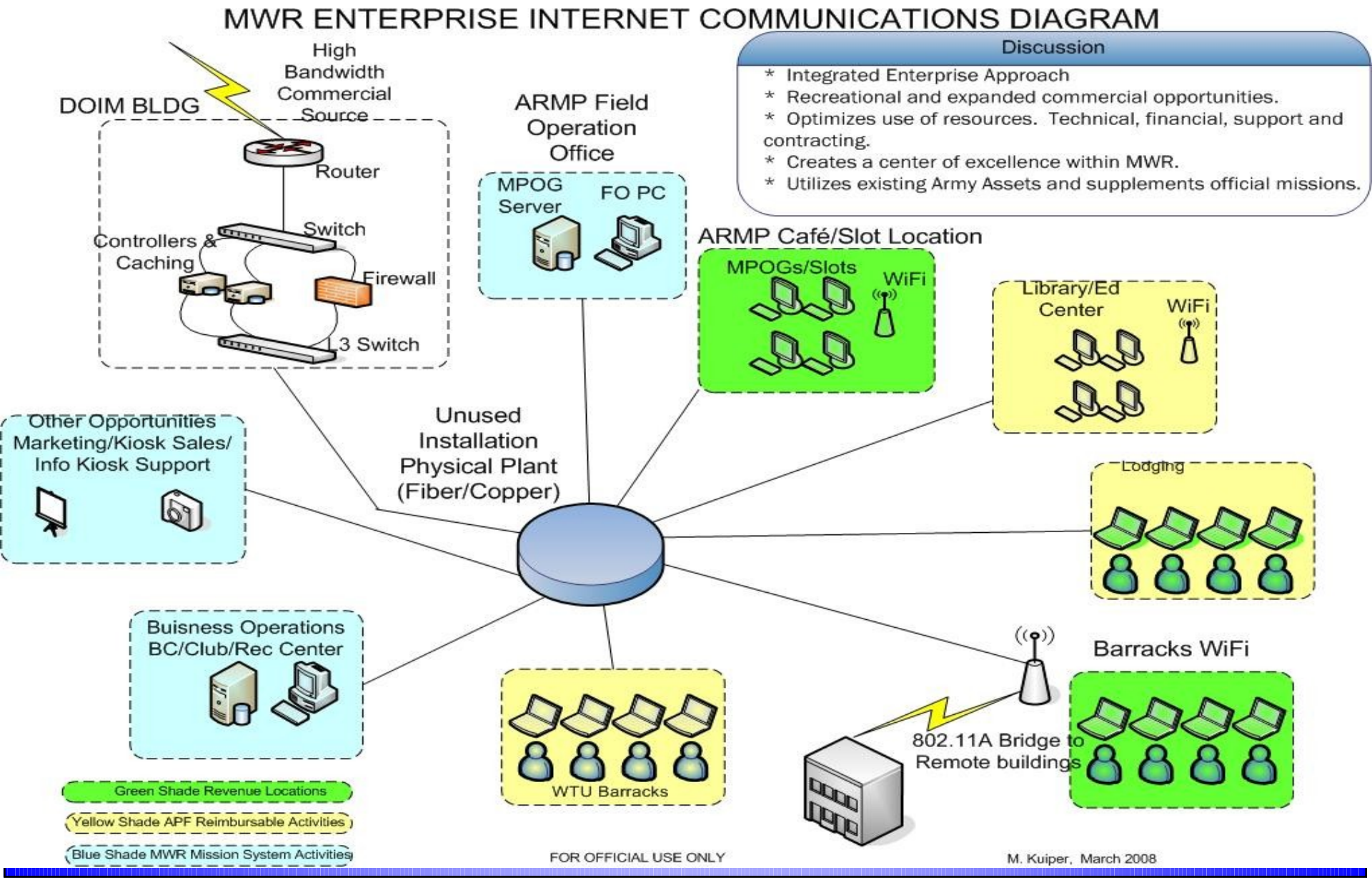
- Coordinate installation activities.
  - ✓ Local DOIM support and involvement in the initiative.
  - ✓ Coordinate with unit commanders.
  - ✓ DPW support and coordination for infrastructure requirements.
  - ✓ Assist in pre-installation building surveys.
  - ✓ Ensure command requirements are communicated to ARMP. (Historic buildings etc.)
- Provide marketing information to incoming barracks residents.
- Ensure changes to building occupancy rates are communicated to ARMP.
- Commit to a minimum term of service and a minimum cancellation time frame.
- Assist with ensuring contractors and ARMP personnel have necessary access to appropriate facilities.
- Provide secure areas for equipment in DOIM closets and in barracks buildings to place equipment required to provide service.
- Cooperate with ARMP in getting unofficial interfering networks terminated.
  - ✓ AR 25-1 Modification will support this.
  - ✓ Official networks always have priority on installations.
- Draft DOIM MOA is available.

MWR Network Concept

MWR FRAGMENTED EXISTING NETWORK DIAGRAM


DOIM BLDG
DOIM Circuits
Router
Switch
Controllers & Caching
Firewall
L3 Switch
Discussion
* Fragmented structure - each activity searches for and implements independent solutions
* Inconsistent implementations even within activities
* Irregular fees to customers and costs to MWR
* Redundant services into facilities
* No enterprise level control or oversight
* Missed opportunities - Contractors paid with Soldier dollars without long term benefits
MISSED Opportunities
Marketing/Kiosk Sales/Info Kiosk Support
Library/Ed Center
WiFi
WiFi is not allowed for public access Internet on the Land War Net
Frustration with implementing new and innovative business systems like credit card data integration
Buisness Operations
BC/Club/Rec Center
OR
MPOG Server
FO PC
CABLE TV OR PHONE COMPANY
SERVICES CONTRACTED THROUGH VARIOUS MECHANISMS
GOVERNMENT PURCHASE CARD
STANDARD CONTRACTING PROCEDURE
AAFES CONTRACTS
PRICING AND SERVICE LEVELS ARE IRREGULAR
Lodging
ARMP Café/Slot Location
MPOGs/Slots
WiFi
Internet Terminals
WiFi
Duplicated and Inconsitent Services presented to customers
AAFES and MWR Internet Services
Green Shade Revenue Locations
Yellow Shade APF Reimbursable Activities
Blue Shade MWR Mission System Activities

MWR Network Concept



On Going MWR support Leverage Infrastructure

- Migrate other unofficial networks off of military backbone.
  - ✓ Libraries
  - ✓ CYS
  - ✓ Services that are generally heavily used during non-peak usage times in the barracks.
- Support other programs
  - ✓ Unofficial meeting internet support.
  - ✓ Lodging
  - ✓ ARMP PC Gaming platforms
  - ✓ MWR mission support.
  - ✓ Services that are MWR missions that are pulling APF support from DOIM.
- Economies of Scale
  - ✓ Consolidate and compete circuit costs throughout a region/country.
  - ✓ Tariff vs. non-Tariff communications

Installation and Command Benefits of MWR Unofficial Internet

- IMCOM wide solution for and by IMCOM
- Sole source for Point of Entry onto installation.
- Utilizes coordinated approach.
- Many functional activities can be standardized.
- Allows command oversight to obtain maximum value to Soldiers and management of system.
- Flexibility for DOIM to support specialized missions.
- Ability to manage requirements within the fence.

Issues

- **Inconsistencies in installation infrastructure implementation.**
  - ✓ 25 Pair to new barracks without fiber.
  - ✓ Land phone lines aren't coordinated.
  - ✓ Cable TV systems.
  - ✓ Building plant standards. (Copper/Fiber/Punch Down/Cross connects)

- **Inconsistencies in DOIM responses.**
  - ✓ Misunderstanding nature of ARMP.
  - ✓ Switch Room versus Network Room.
  - ✓ Information Assurance Requirements.
  - ✓ Interpretation of Regulations and Requirements on systems and infrastructure.
  - ✓ Land line phones versus Internet Access.

- **Moving into the future.**
  - ✓ Coordinate outside plant.
  - ✓ Ensure standards on inside plant.
  - ✓ **Add standards for residential buildings that facilitate Wireless implementations.**

Summary

- Do the right things for the right reasons
  - ✓"All Paths Lead to the Soldier"
  - ✓Bring the greatest value to the Soldier.
  - ✓Ensure viability of WiFi program and MWR into the future.
  - ✓More coordination will provide benefits to all concerned with the implementation.
  - ✓The digital infrastructure becomes our "Force Multiplier"

Technical Background

Back up Charts.

Barracks WiFi Technical Specs

- **Community Level Connectivity**.
  - ✓ Multiple options based on local command situation.
  - ✓ DOIM central office distribution.
    - Terminate commercial DS3 circuits at DOIM facility.
    - Install MWR Router/Switch/Controllers/Layer 3 switch in DOIM closet. (Generally delivers 4.6 Mbs to individual buildings on copper)
    - Fund DOIM/Contractors to extend circuit segments to individual buildings.
    - Utilize fiber/copper drivers to local buildings over existing infrastructure.
    - MOA developed for associated DOIM support requirements including reimbursement for direct expenses incurred by DOIM.
    - Challenges:
      - » Multiple circuits required.
      - » Same expenses incurred for large as well as small facilities.

Barracks WiFi Technical Specs

- **Community Level Connectivity (cont)**
  - ✓Multiple options based on local command situation.
  - ✓Building Termination with Wireless relay.
    - Terminate commercial DS3 circuits at a given barracks.
    - Install MWR Router/Switch/Controllers/Layer 3 switch in a closet in the barracks or other MWR facility.
    - Utilize 802.11a antennas to connect buildings.
      - » Multiple 45-90 degree antennas at central point.
      - » Yagi directional antennas at receiving point.
      - » 54Mbs connections to buildings with more network hops.
    - Challenges:
      - » Line of site.
      - » Interference.

Barracks WiFi Technical Specs

- **Community Level Connectivity. (Cont)**
  - ✓ Multiple options based on local command situation.
  - ✓ Combined Approach
    - Terminate commercial DS3 circuits at DOIM closet.
    - Install MWR Router/Switch/Controllers/Layer 3 switch in a closet in the DOIM.
    - Use network distribution over fiber/copper to major building areas.
    - Utilize 802.11a antennas to connect buildings in geographic areas.
      - » Multiple 45-90 degree antennas at central point.
      - » Yagi directional antennas at receiving point.
      - » 54Mbs connections to buildings with more network hops.
    - Challenges:
      - » More engineering design required.
  - ✓ BEST APPROACH.
    - Allows multiple small buildings with low occupancy to be fed from central service.

Barracks WiFi Technical Specs

- **Building Level Connectivity**.
  - ✓ Utilize remote access points operating on 802.11b
    - Most common communication protocol for all laptop computers.
    - 802.11g is also a possibility. (Same Frequencies)
    - Operates using unlicensed frequencies worldwide.
  - ✓ Access Points are placed based on three factors.
    1. Number of customers in a building.
    2. Layout of building. (Multi-Story or Multi-Wing)
    3. Construction of the building. (Wood/Metal/Concrete/Brick)
  - ✓ Circuits are run into building either via wired or wireless bridges.
  - ✓ Access Points are generally run using POE technology
  - ✓ Typical large barracks (150+) require 6 AP's and a switch with POE capability.

Security and Performance Issues

- Service is designed to provide at least 512K per user.
  - ✓ Maximum bandwidth to building 4.6 Mbs to 45 Mbs is available in a burstable connection.
  - ✓ QOS configuration is used to limit individuals from using all bandwidth.
- Service is intended to provide access to sites normally blocked by official traffic.
  - ✓ MySpace/Music Downloads/IM/Gaming etc.
  - ✓ Additional Blocking is possible but not a goal.
- Service **is not** intended to provide server based activities.
- Security is limited to preventing passwords and credentials from being viewed and limiting snooping.
- User accounts and Credit Card information are secured using commercial standards.
- Automated remote monitoring is conducted 24 x 7.